1: Lhote--74a E-5 (1929-1940) 1944 MS25 Tuareg MS25

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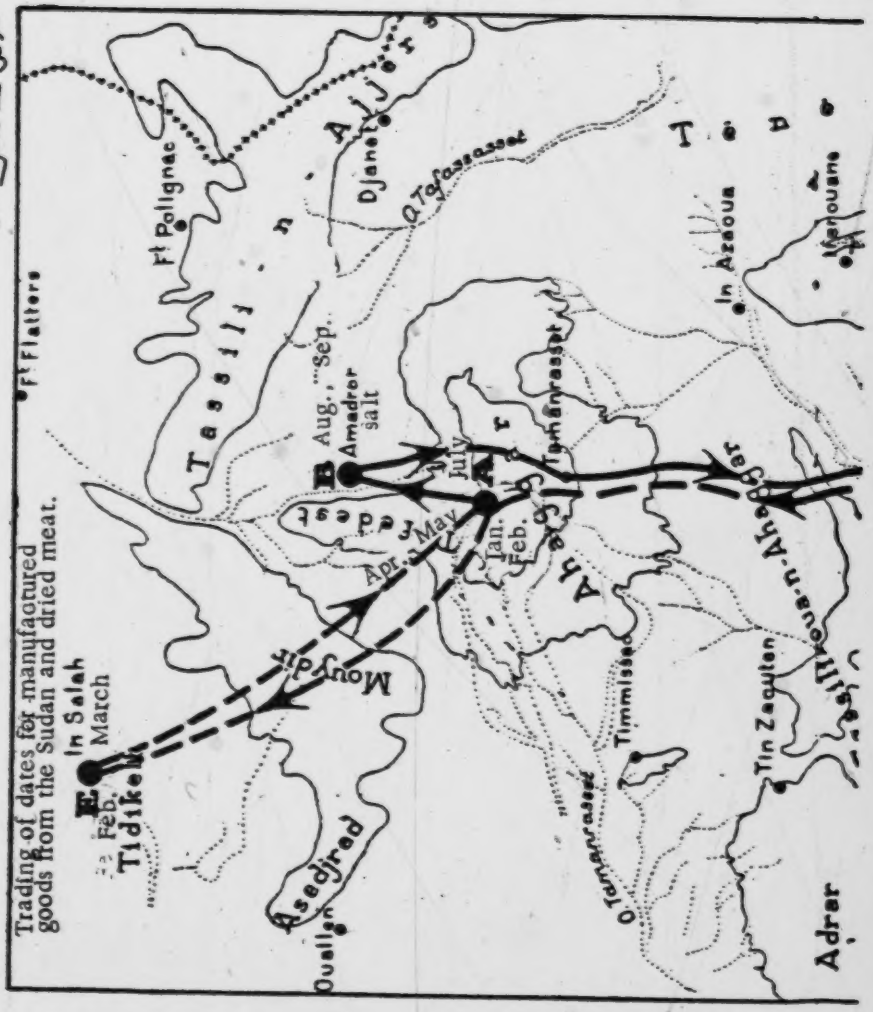

Map V. Diagram of the caravan cycle of the Ahaggar Tuareg.

A. Center of transhumance and point of departure of the caravan cycle. B. Center of salt extraction. C. Region of stocking of salt and of temporary nomadization. D^1 D^2 D^3. Center of trade of salt for grain.

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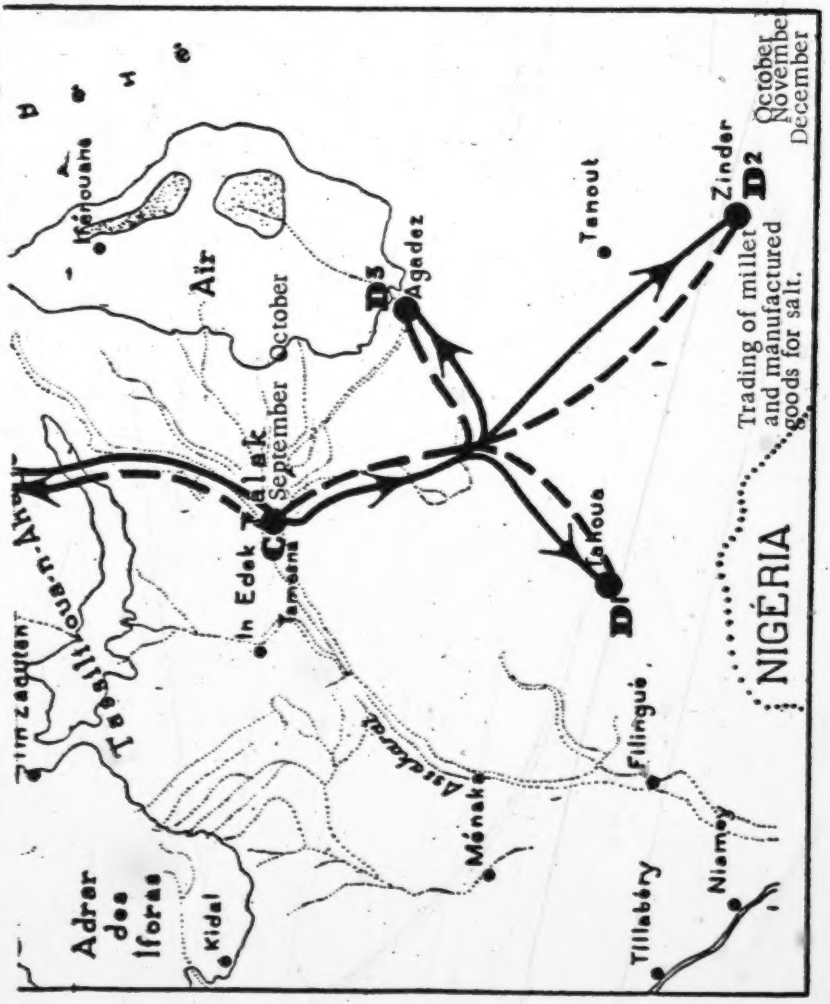

E. Center of trade of manufactured goods and dried meat for dates after return from A.

436 The ideal medium of exchange is the salt which [492] abounds in the Sahara and which is totally lacking in the Sudan. 439 Thus we see a caravan cycle spread out over a whole year and thousands of kilometers. This is all the more viable /sic/ for the Ihaggaren since it makes use of their many camels which otherwise might remain unused in part.

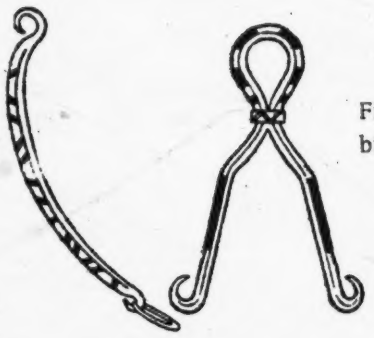

Fig. 22. Camel bit (detail).

317 The starting point is naturally the salt deposit. The mine /219/ is open; [415] one need only detach the salt in pieces and place it in leather bags to transport it. This labor is kept for the Iklan, who arrive at the salt deposits during the summer and [492] stay there from three weeks to a month. Each camel owner operates at will, and transports the salt to his camp after extracting it.

Fig. 23. Device for attaching the camel's bridle.

439 Toward mid-September, all the 481 caravaneers gather together by tribes. Soon they leave their families in the Ahaggar and take the long route [487] for the Sudan, crossing the Tanezrouft. Thus one may see caravans of 100 to 150 camels, but rarely more, for the pasture grounds would not allow it. The arrival in the Sudan must occur after the rainy

The subtropical zone is Negro country. The Egyptians were well aware of that, and they drew much profit from this distant neighbor. Their Pharaohs did not hesitate to send military expeditions to bring back gold, ivory, ostrich plumes, and human livestock! The North African inhabitants were not ignorant of it either, and soon the riches of the Sudan were a fact known by all. Great caravan routes grooved the whole Sahara from north to south.

Their trail seems to have bypassed the Ahaggar. We do not know the real reasons for this, but we can guess them. The mountain must have been avoided because of the obstacles it presented, its altitude and the rocky nature of the ground. The shortest trail which follows a north-south direction therefore cannot pass through the Ahaggar but can run along beside it. That is what happened. The reputation as brigands and highway robbers which the Tuareg enjoyed is perhaps not irrelevant to this turning away of the caravan trails either.

/311/ The great arteries which furrow the immediate approaches of the Ahaggar tie important oases together. They were able to prosper because of the fact that these oases participate directly in the life of the Tuareg and because the Tuareg need them to ensure their food supplies.

The largest and most frequented trail is the one connecting the oases of the Touat and Tidikelt to the city of Agadez. For the Ihăggaren this is the granary route: dates at the Tidikelt, millet in the Sudan. It takes 40 days to go from Akabli to Agadez, and the Ahaggar is halfway between. There is a mountain near the guelta /well? Ed./ of Outoul located 18 kilometers west of Tamanrasset which the Arabs call Ounous and which marks exactly half the way. This trail is, in fact, used by the Arabs, for whom the Sudan is an attraction. They gain very great benefits from these transactions, and everyone's dream is to be able to take a caravan to the Sudan, whence he hopes to return a rich man.

After leaving In-Salah the trail crosses the Ahaggar through the Arak gorges, reaches Lower Koudia at I-n-Ămegel, passes to

487 Tamanrasset, crosses the Tanezrouft through In Guezzam, and reaches the Sudanese zone either by the well of In Abangarit or by the well of Taket-n-koutat.

From Agadez the caravaneers usually go toward Zinder, Kano, or Sokoto.

Another trail, less frequented today but which formerly played a very important role, is the one connecting the oases of Ghadame and Ghat to Timbuktu or Gao. This is the route which the Sonrhai pilgrims used to take to go to Egypt. It was then much more a religious route than a trade route, for transactions between Fezzan and Timbuktu were very little developed and centered around the gold which came from Bambouk.

The trail, leaving Ghat crossed the plain of Ẍdmer, cut across Ẍdrar Ẍnahef, reached Aïtoklane, Ẍbalessa, and Silet, and crossed the Tanezrouft either by Tin Rerhoh or T-i-m-missao to end up at Tin Zaouaten. Then, crossing Ẍdrar des Iforas it arrived either at Gao by following the hollow of the Tilemsi, or at Timbuktu.

It is by this trail that the Arab traveler Ibn Batouta returned home from Gao. He left the trail after having crossed the Tanezrouft and entered the Ahnet to reach Touat.

There used to be another trail, Ghadames-Ghat-Timbuktu, /312/ which completely avoided the Ahaggar and went from Ghat to In-Salah by crossing Tassili-n-Ẍjjer. This detour obviously made the route longer, but it was much safer for the caravaneers than the Ahaggar route, for it was entirely under the control of the Tassili Tuareg, who were on good terms with the people of the oases of Ghat and the Touat. It takes 25 days to go from Ghat to In-Salah by this itinerary, and one months from In-Salah to Gao.

The road from In-Salah to Gao is still very much frequented at the present time, not only by Arabs from the Touat, but also by [439] the Ahaggar Tuareg and the Tuareg from the Ẍdrar des Iforas. This is the "sheep" trail, the one used by the caravaneers who are engaged in trading in livestock on the hoof and who supply meat to

the oases of the Tidikelt and Touat which have none. Thanks to the wells of T-i-m-missao and In Ziza, the sheep succeed in crossing the Tanezrouft without too much suffering.

This trace movement is evidently engaged in only during the coolest months of the year, that is, from October to April, and it demands great precautions from the caravaneers.

Here is a list of the wells, starting from Timeïaouine (Ădrar des Ifŏras), where the animals are watered, as well as the number of days of march between them, according to the information furnished us by El Bak el Fassi, the Amrar of the Kel Ăhnet.

Timeïaouine (well, watering place)		
I-n-Gezzal	1 day	Ădrar des Ifŏras
Efenargh	1 "	
In Ouzzal	1 1/2 days	
Tirek	3 " "	Tanezrouft
Ti-m-missao	2 "	
Tin Senatet	5 "	
In Torha	1/2 day	
Aleg'nenou	5 days	Ăhnet
Tin Khalifa	2 "	
In Belret	1 day	
El Khenig	1 1/2 days	Immidir
In-Salah	3 "	Tidikelt

Or 26 1/2 days' march.

/313/ Depending on whether pasture is more or less abundant, caravaneers suffer more or less losses in their flocks. Sometimes this loss is complete, sometimes it is none at all.

We saw a Kel Ăhnet make the trip at the end of the month of April, a period which is not favorable, with 35 sheep and not have to kill more than one of them on the way.

487 When one speaks of a caravan trail, one must banish the idea of a route more or less arranged to facilitate traffic. The Saharian trails are simply marked on the ground by the tracks which the camels make, passing there in the same place for centuries. In the Ahaggar they look like a long, light ribbon running through the middle of the black rocks. The trail may be made up of two, three, or six ribbons which run parallel to each other, depending on its importance and the lay of the land.

Trails always follow the sides of valleys, naturally linking one well to the other and passing from one valley to another through the most accessible passes. They are never marked out. Of course in some places there are a few redjem, a kind of pile of pebbles to mark the passes or the nearness of certain wells, but these are rare and on the whole recently constructed, for the Ihaggaren have always strived to hide the routes through their country from strangers.

In sandy places and in regolith terrain where the ground is always more or less transformed by the action of the wind, the trail often becomes invisible, and the caravan must then trust to the knowledge of a guide or a man who has already traveled over the road several times and knows it.

Secondary trails. -- There are within the Ahaggar numerous secondary trails which are used for local needs. They all go from one well to another. All the agricultural centers are connected by a network of well-marked trails which are easy to follow without any great knowledge of the country. There are also pasture trails, little routes marked by the repeated trampling of goats going from one valley to the other and winding around the mountains; the animals follow them every day. This network is unbelievably extensive, and one might say that every mountain and every plateau is furrowed by several of these little paths. /314/ They are to be found in the most inaccessible and barest places, which shows that the Ahaggar used to be traversed in all directions,

174 in its remotest regions, the result of more intensive goat raising
487 and proof that pastures used to be more numerous than they are today.

492 There are very appreciable differences in the way Tuareg and
484 Arab caravaneers travel. The Arabs always push their camels in front of them; these camels march in a line freely, without any bridle or /head/ rope. The Tuareg, on the other hand, always advance in file, the camels attached one behind the other and guided by a man who takes the head of the convoy by holding one of the animals by the bridle, or else by riding it.

These different methods are imposed for two reasons, both connected with the structure of the terrain. The Arab Sahara is generally a flat country where it is easy to move about and where no natural obstacle opposes the animals' walking. In mountainous country, however, as in the Ahaggar, the narrowness of some trails, particularly going through certain passes, forces them to take precautions to control the camels' march, unless they want to see them crowd up on one another to the detriment of the baggage with which they are loaded. Moreover, pastureage also occurs under different conditions. In the northern Sahara, where the soil consists mainly of calcareous formations, vegetation is always diffuse, which forces the camels to move about a great deal, browsing from one tuft to another. Thus the Arabs have got in the habit of never putting their animals on a leash in order to let them gather tufts of vegetation which are within their reach, all the time they are moving.

In the Ahaggar, as we have had occasion to say, vegetation is, on the contrary, concentrated and sheltered in the valleys where water is hidden under the sandy alluvial deposits. Therefore there is no point in leaving any liberty to the camels; quite the opposite, they must not lose a minute on the trail but must reach

232 the ridge of the nose, and then tying a very thin leather thong very tightly around the base of each fold much as a string is tied around the opening of a toy balloon to keep the air in. After a while the thongs are cut away and three little round knobs, about the size of the end of your index finger, remain for the rest of the camel's life as a kind of hallmark of outstanding quality (fig. 26, *a*). Riding camels are very carefully and patiently trained from the age of about 2 years on, and the males are castrated when about 5 years old.

439 **Trading.** We have now seen that pastoralism is the central column and garden rent a corner post of Tuareg economy in the Ahaggar. Trade is the second corner post, and salt is, as we have seen, the chief article of export.

[317] In April or May some of the Ahaggar Tuareg send their slaves to the salt mines of the Amadror for two or three weeks. In July they go south with their cargoes of salt, through the

[487] rich pastures of the Tamesna region where they rest their animals for a while or exchange them for fresh ones, and then on to the commercial centers of the country just north of the Nigerian frontier. Here trading begins in earnest, late in October as a rule, and endless discussions and bargaining go on for a couple of months or so. Salt, and also camels, donkeys, and dates obtained from the North, are exchanged chiefly for millet but also for a variety of manufactured articles such as cotton cloth and clothing, leather goods, sandals, saddles and bridles, wooden household utensils and tools and weapons of iron and steel. In January the Ahaggar Tuareg turn north again, pause once more for a while in the Tamesna, and finally reach their homes in March or early April.

Camels, hairy sheep, goats, donkeys and congealed melted butter used to be traded in the oases of the Tidikelt and the Touat mainly for dates, and also for cotton cloth, thin woolen blankets from the Gourara, tea, sugar and tobacco. Caravans engaged in this trade used to leave the Ahaggar in January or early February and return in April. Over the last 30 years or so, however, this commercial current has been reduced to a mere trickle by middlemen with trucks who have gradually taken over delivery of the goods that caravans used to fetch from the North. The trade still exists in a sense, but it has become indirect

2: Briggs E-4, 5 (ca. 1956) 1958 MS25 Tuareg MS25
Hoggar

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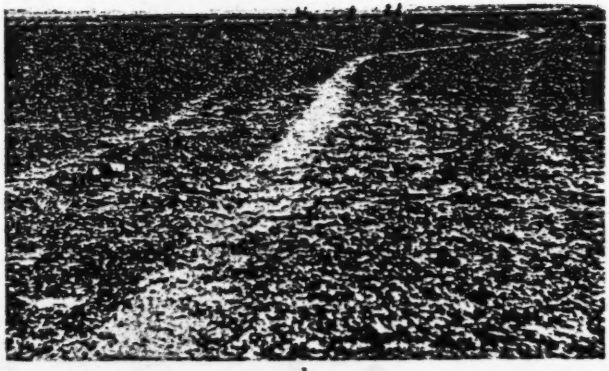

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Fig. 6. Sandy desert and stony desert. *a*, The Great Western Erg. *b*, A camel trail in the Ahaggar. (Photographs courtesy of OFALAC, Algiers.)

[photo a not processed-Analyst]

They have no numbers, and they do not use the Arabic numbers. They prefer to make holes in the sand, and by this rather long process succeed in figuring just the same. A Tuareg, moreover, cannot talk for five minutes without emphasizing his recitation with dots or lines on the sand. If he is asked, "How many days' march are there between this point and that one," he cannot answer any number without marking on the ground as many dots as there are days in his answer. 802

A Tuareg who has been made to sit on the ground on a blanket, before he begins to talk raises the edges of the blanket /44/ so as to indulge in his favorite occupation. Certainly if he were transported to France, into a well-waxed apartment, he would be very unhappy and would quickly ask for sand or earth so as to be able to draw his dots and lines. [516 521]

But this custom has its use when one wishes to have an idea of the road one must travel. The Tuareg who, like all nomads, has a very accurate sense of direction, will draw an over-all map of the route to be followed, with the wadis and landmarks which would be met. 487 823

The Tuareg do not have words in their language to denote the days of the week. Those that they use have been borrowed from the Arabic and changed. 177 192 805

On the other hand, for their months they have kept some truly Tamashek names, while others are definitely taken from the Arabic. Thus:

1. "Tamessedek," corresponding to Muharram and which seems to be derived from the Arabic "sedeq" صدق "to give alms." It is said that this name means "zekkat" ةكز, or "legal alms."

2. "Talilt tassettafet" (corresponding to Safar). This means "the black month." Here is why this month is so called: "Sidna Slimane (Solomon) was in command of the genii and demons. One day when he was standing leaning on his cane, the "djinns" (genii) told a termite to eat out the bottom of the cane. The termite did the job so well that the 773 776 805

7:Nicolaisen E-5 (1951-1962) 1963 MS25 Tuareg MS25

there will be one entirely dry year throughout, during which stock-breeding products have little or no value as food, and in such years of dry pasture there will also be very few wild plants to collect. Hunting, which plays little part for most Tuareg nowadays, is also of little value in an entirely dry year when many game animals die or migrate to other regions with more favourable pasture. It would seem obvious for pastoral Tuareg to do the same and to take their animals to grazing grounds outside of Ahaggar – particularly to the southern plains where pasture is normally better than in their own country. We have seen that most Ahaggar Tuareg in bad years have their she-camels far from Ahaggar in the Tamesna plains or in the country north of Aḍraṛ-n-Foṛas. We have also mentioned that, under very severe conditions, camps of Ahaggar and Ahnet may move to these southern regions with their flocks, though extensive goat-migrations are not always profitable. But most Tuareg remain in Ahaggar even in very dry years with their camps and flocks. Some of the animals will die, and none of them can be mated so that the flocks may rapidly decrease. During such years of drought the Ahaggar Tuareg live so to speak exclusively on agricultural food products of which they get only a part from their gardens grown by sedentary agriculturists (the *Ḥarratin*, or *Izzegaṛen*). It is mainly through caravan trading that the Ahaggar Tuareg acquire their vegetable food products. Their two important trading expeditions to the Tidikelt oases and to the Sudan are carried out anually for the main purpose of acquiring dates and millet.

Trading with the Tidikelt oases (Awlef and In Salah) is based mainly upon a surplus of goats, camels, butter and cheese, and on dried meat. But many Tuareg who obtain large amounts of millet from the Sudanese trading expedition also sell part of their wheat grown in their own gardens in Ahaggar, and Sudanese articles bought during their south-bound trading expedition. In a dry year some Tuareg may choose not to visit the Tidikelt area as they have too small a surplus for trading. The south-bound caravans, on the other hand, are rarely prevented from going as their main trading object is rock-salt of an excellent quality mined at Amadṛor north-east of the Ahaggar Massif. Both north-bound and south-bound caravans will set off in autumn when the hottest season has come to an end, that is at the end of September or at the beginning of October.

The caravan route from Tamanṛaset in Ahaggar to In Salah in Tidikelt is about 750 kilometres, and the route is rather difficult because pasture is normally lacking for three to four days of the journey. Most Tuareg who cross this part of the desert therefore bring with them large supplies of the dried *tullult*-grass (*Aristida pungens*), which also serves as fodder for the pack-camels during the stay in the oases around which there is little pasture. The journey takes about twenty days in each direction, and the north-bound caravans return to Ahaggar again already in December or in January. The traders return with their camels loaded with dates of which a part may be re-sold in Ahaggar (Tamanṛaset), but they also buy European cotton and other European articles, which are cheaper in the north, and woollen blankets woven by sedentary people of the northern oases.

The south-bound caravans are very extensive. The towns visited in the south are Agadez, Tawa Tanut, and Zinder. The distance from Tamanṛaset to Zinder is, as the crow flies, about 1200 kilometres, while the distance from Tamanṛaset to Amadṛor, where salt is mined, is about 300 kilometres. In total the caravan journey from Ahaggar to Zinder and back again for many Tuareg amounts to more than 3000 kilometres. The south-bound caravans are organized as follows:— Slaves take the

7:Nicolaisen E-5 (1951-1962) 1963 MS25 Tuareg MS25

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563
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Fig. 149. The market place of Agadez. In the front negroid Hausa men roasting small pieces of meat on a spit; in the background Tuareg camels offered for sale.

484 pack-camels to the salt pit of Amadror to mine salt in the hot season. They load the camels with salt
487 and bring them to the camp where further preparations for the journey are made. When the caravans
[317] have started southwards they stop in the Tamesna plains and rest there for at least one month to allow
[437] the pack-camels to feed on annual pasture, and, if necessary, to exchange the pack-camels with others kept by the Ahaggar Tuareg in Tamesna. Thereupon the caravan will continue towards the millet-
[221] growing towns and villages of the Sudan to bargain with the Hausa. The caravan returns to Ahaggar again at the end of March or at the beginning of April, so that the total duration of a south-bound caravan is up to six or seven months.

433 The Sudanese millet trade is of extreme value to the subsistence of the Ahaggar Tuareg. It is partic-
439 ularly important to their economy that they obtain millet for non-nomadic products transported by camels, which are mainly bred outside of Ahaggar. The millet trade is consequently not much influenced by Ahaggar's changeable climate. According to official statistics, the Ahaggar caravans in 1946 exported 375 tons salt, and imported 720 tons millet, while the cereals grown in Ahaggar amounted to 197 tons (cf. Malaurie 1953, p. 344). According to Galan vegetable food grown in the gardens of Ahaggar in 1950 (a bad year) amounted to 121 tons wheat, 5 tons millet and barley, and 4 tons of tomatoes – about 10 kg of wheat and 0.5 kg of millet, barley, and tomatoes per person (Galan 1951,
[465] p. 233). We see from this that the amount of cereals acquired in the Sudan far exceeds the amount grown in Ahaggar, and as we have mentioned, the millet trade is also important for the establishment of Tuareg agriculture in their own country where this cereal is used for payments to cultivators. It can also be added that the Sudanese caravan trade is more important to the Tuareg than appears from
[435] the figures above. For salt is much more valuable than millet, and for one load of salt the Tuareg receive from four to fifteen loads of millet – in 1946 the price was fifteen to one (cf. Malaurie 1953, p. 344). It is evident that the Tuareg could not take all this millet back to Ahaggar. Most of it is re-sold

7:Nicolaisen E-5 (1951-1962) 1963 MS25 Tuareg MS25

by the Tuareg of Ayr, the *Kel Geres*, and other Tuareg. The Tuareg obtain salt generally in exchange for millet, but they also bring with them dried meat, and meat from animals newly slaughtered; and although this meat is largely rotten when it arrives at Bilma it is easily sold to the oases dwellers who are yearning for meat. The oases dwellers have little to subsist upon but dates of which they have a surplus. This is purchased by the Tuareg, who get two loads of dates for one load of millet. The Bilma trade is less important nowadays than it was at the beginning of the century. In 1922 the Bilma caravans comprised about 7000 camels (Buchanan 1926, p. 83), while in 1908, when the trade was already decreasing, caravans numbered about 20,000 camels (Abadie 1927, p. 292). Caravans still go to Bilma to fetch salt and dates, but the salt trade is not so profitable to-day when Bilma salt can be bought fairly cheaply at Agadez, as the trucks bringing provisions from Agadez to the French administration and to the merchants of Bilma, take salt back with them when they return. The Ayr Tuareg do not organize their trading expeditions within family groups or sections as in Ahaggar. A Tuareg who does not want himself to go to Bilma may let a kinsman or a friend trade for him with his camels. The payment for this is a large loaf of salt which constitute one sixth or one seventh of a camel load.

The Ayr Tuareg do not generally obtain salt from the pits of Tegidda-n-tésemt though this place is not very far from the Massif to the west. They say that the Tegidda salt is not as good as Bilma's. The salt of Tegidda-n-tésemt is purchased mainly by the *Iwllemmeden Kel Dennek* when visiting the regions around Ingal after the rains. Some of the *Kel Ayr* who live in the extreme north (the *Kel Tédalé*, and others) occasionally go to Amadror in the north to fetch salt which is taken down to the Sudanese towns and villages. In years when drought prevails in Ahaggar these Tuareg take their surplus of livestock to the market at Tamanṛaset, for in dry years the provision of meat, butter, and cheese consumed in Ahaggar come mainly from Ayr and adjacent regions. When I stayed in Ahaggar in 1954–55 a great many Tuareg of the *Kel Tédalé* came to Tamanṛaset to sell camels, donkeys, sheep, goats, and zebus, and also brought with them large quantities of cow's butter and cheese. The route followed from Northern Ayr to Ahaggar runs via I-n-aṛawa and I-n-abeggi which are the only wells between the two mountain massifs. Water is very scarce and so is pasture, which is mainly limited to a scattered vegetation of annual plants; over very large areas there is no vegetation at all. It is easy to drive camels and donkeys through these regions, while more difficult for sheep, goats, and cattle. The zebus easily get cut hooves from walking on stony ground, while sheep and goats suffer much from thirst. In spite of this, all kinds of livestock can be driven through the barren desert from Ayr to Ahaggar, even as late as the month of March which is extremely hot in the barren desert country. The Tuareg frequently lose animals which die from thirst and hunger during the journey, but the trade is nevertheless extremely profitable as prices of livestock are high in Ahaggar in dry years, while prices of European goods such as tea, sugar, cotton, metal vessels, and the like are extremely low compared with the prices asked for these goods in Ayr.

The Ayr Tuareg, though owning more livestock than the Tuareg of Ahaggar, have a certain demand of agricultural food products. These products are mainly grown outside of the Massif, for the farmers of Ayr grow little millet, very few dates, and part of the wheat grown in Ayr is exported to the oases of Ganet and Ṛat in the north. Though these vegetable products can be purchased at Agadez, it is profitable to fetch them where they are cheap, namely in the Sudan (millet) and in Bilma (dates). And